PATENT COOPERATION TREA

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference APM:LG:FP10779.D21	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International application No. PCT/AU 99/00135	International filing date *(day/month/year)* 05 March 1999	Priority Date *(day/month/year)* 05 March 1998

International Patent Classification (IPC) or national classification and IPC

Int. Cl.[6] B02C 13/06, 13/20, B07B 1/12, 1/14, 1/15, 1/16, E02F 3/00, 9/00.

Applicant

1 MISU PTY. LTD.

1 This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

[X] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheet(s).

3 This report contains indications relating to the following items:

I	[X]	Basis of the report
II	[ ]	Priority
III	[ ]	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	[ ]	Lack of unity of invention
V	[X]	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	[ ]	Certain documents cited
VII	[ ]	Certain defects in the international application
VIII	[ ]	Certain observations on the international application

Date of submission of the demand	Date of completion of the report
01 October 1999	11 January 2000
Name and mailing address of the IPEA/AU	Authorized Officer
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Form PCT/IPEA/409 (Cover sheet) (July 1998) COPYRF

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/AU 99/00135

I. Basis of the report

1. With regard to the elements of the international application:*

- [ ] the international application as originally filed.
- [X] the description, pages 1, 3-7, as originally filed,
  pages , filed with the demand,
  pages 2, filed with the letter of 21 December 1999.
- [X] the claims, pages , as originally filed,
  pages , as amended (together with any statement) under Article 19,
  pages , filed with the demand,
  pages 8, 9, filed with the letter of 21 December 1999.
- [X] the drawings, pages 1, as originally filed,
  pages , filed with the demand,
  pages , filed with the letter of
- [ ] the sequence listing part of the description:
  pages , as originally filed
  pages, , filed with the demand
  pages , filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

- [ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- [ ] the language of publication of the international application (under Rule 48.3(b)).
- [ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, was on the basis of the sequence listing:

- [ ] contained in the international application in written form.
- [ ] filed together with the international application in computer readable form.
- [ ] furnished subsequently to this Authority in written form.
- [ ] furnished subsequently to this Authority in computer readable form.
- [ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- [ ] The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. [ ] The amendments have resulted in the cancellation of:
   - [ ] the description pages
   - [ ] the claims, Nos.
   - [ ] the drawings, sheets/fig

5. [ ] This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Statement

Novelty (N)	Claims 1-6	YES
	Claims	NO
Inventive step (IS)	Claims 1-6	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-6	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

- US 5 449 072 (Braun et al.), 12 September 1995
D2 - WO 95/11093 (Humuspehtoori Oy), 27 April 1995.
D3 - Derwent Abstract Accession No. 93-286174/36, Class P41
SU 1 759 459 A1, (KERAMZITE RES INST), 7 September 1992
D4 - Derwent Abstract Accession No. 97-197574/18, Class Q42
JP 09-053252 A, (MARU), 25 February 1997.
D5 - Derwent Abstract Accession No. E9346C/22, Class 41
SW 7804168 (KARPATHI), 12 May 1980.

Novelty(N) and Inventive Step(IS) Claims 1-6

None of the documents D1-D5 either individually or in obvious combination disclose a classifying grate, wherein the adjacent banks of blades are axially offset and form the sizing gap. Consequently claims 1-6 are novel and involve an inventive step.

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about a respective axis, the axes being parallel to each other, with adjacent banks of blades axially offset relative to each other so that the blades of one bank alternate with the blades of an adjacent bank, and wherein at least one bank of blades is linearly slidable along its axis of rotation to provide a predetermined amount of axial freeplay and where a sizing gap is formed between mutually adjacent blades of adjacent banks;

wherein, when the blades are rotated and a particulate material is placed on the blades, the rotating blades agitate and/or crush the material to allow particles of a size equal to or smaller than the sizing gap to pass between the blades and through the open bottom.

Preferably the blades are juxtaposed so that the blades on one bank extend transversely between the adjacent blades of an adjacent bank.

Preferably said blades are configured and juxtaposed so that if the blades of one bank were directly opposite the blades of an adjacent bank the opposed blade would intermesh.

Preferably said screen frame is in the form of a bottomless scoop or bucket adapted for coupling to an earthmoving vehicle whereby said vehicle can be controlled to manipulate said scoop or bucket to scoop particulate material into said screen frame and/or elevate said screen frame above the ground while said blades are rotated.

Preferably said screening apparatus further includes one or more hydraulic motors for driving said banks to blades said motors supported on said screen frame and wherein hydraulic fluid for said motors is derived from said earthmoving vehicle.

Brief Description of the Drawings

An embodiment of the present invention will now be described by way of example only with reference to the accompanying drawings in which:

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The Claims that Define the Invention are as Follows:

1. A screening apparatus for screening a particulate material composed of particles of different size, said apparatus including:
a screen frame having an open bottom through which screened particles can pass;
a plurality of banks of blades supported on the screen frame; each bank having a plurality of evenly spaced blades arranged in a row and rotatable about a respective axis, the axes being parallel to each other, with adjacent banks of blades axially offset relative to each other so that the blades of one bank alternate with the blades of an adjacent bank, and wherein at least one bank of blades is linearly slidable along its axis of rotation to provide a predetermined amount of axial freeplay and where a sizing gap is formed between mutually adjacent blades of adjacent banks;
wherein, when the blades are rotated and a particulate material is placed on the blades, the rotating blades agitate and/or crush the material to allow particles of a size equal to or smaller than the sizing gap to pass between the blades and through the open bottom.

2. A screening apparatus according to claim 1 wherein the blades are juxtaposed so that the blades on one bank extend transversely between the adjacent blades of an adjacent bank.

3. A screening apparatus according to claim 2 wherein said blades are configured and juxtaposed so that if the blades of one bank were directly opposite the blades of an adjacent bank the opposed blade would intermesh.

4. A screening apparatus according to claim 3 wherein said screen frame is in the form of a bottomless scoop or bucket adapted for coupling to an earthmoving vehicle whereby said vehicle can be controlled to manipulate said scoop or bucket to scoop particulate material into said screen frame and/or elevate said screen frame above the ground while said blades are rotated.

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5. A screening apparatus according to claim 4 further including one or more hydraulic motors for driving said banks to blades said motors supported on said screen frame and wherein hydraulic fluid for said motors is derived from said earthmoving vehicle.

about a respective axis, the axes being parallel to each other, and wherein at least one bank of blades is linearly slidable along its axis of rotation to provide a predetermined amount of axial freeplay and where a sizing gap is formed between mutually adjacent blades of adjacent banks;

wherein, when the blades are rotated and a particulate material is placed on the blades, the rotating blades agitate and/or crush the material to allow particles of a size equal to or smaller than the sizing gap to pass between the blades and through the open bottom.

Preferably adjacent banks of blades are axially offset relative to each other so that the blades of one bank alternate with the blades of an adjacent bank.

Preferably the blades are juxtaposed so that the blades on one bank extend transversely between the adjacent blades of an adjacent bank.

Preferably said blades are configured and juxtaposed so that if the blades of one bank were directly opposite the blades of an adjacent bank the opposed blade would intermesh.

Preferably said screen frame is in the form of a bottomless scoop or bucket adapted for coupling to an earthmoving vehicle whereby said vehicle can be controlled to manipulate said scoop or bucket to scoop particulate material into said screen frame and/or elevate said screen frame above the ground while said blades are rotated.

Preferably said screening apparatus further includes one or more hydraulic motors for driving said banks to blades said motors supported on said screen frame and wherein hydraulic fluid for said motors is derived from said earthmoving vehicle.

Brief Description of the Drawings

An embodiment of the present invention will now be described by way of example only with reference to the accompanying drawings in which:

Replaced by Article 34

The Claims that Define the Invention are as Follows:

1. A screening apparatus for screening a particulate material composed of particles of different size, said apparatus including:
a screen frame having an open bottom through which screened particles can pass;
a plurality of banks of blades supported on the screen frame; each bank having a plurality of evenly spaced blades arranged in a row and rotatable about a respective axis, the axes being parallel to each other, and wherein at least one bank of blades is linearly slidable along its axis of rotation to provide a predetermined amount of axial freeplay and where a sizing gap is formed between mutually adjacent blades of adjacent banks;
wherein, when the blades are rotated and a particulate material is placed on the blades, the rotating blades agitate and/or crush the material to allow particles of a size equal to or smaller than the sizing gap to pass between the blades and through the open bottom.

2. A screening apparatus according to claim 1 wherein adjacent banks of blades are axially offset relative to each other so that the blades of one bank alternate with the blades of an adjacent bank.

3. A screening apparatus according to claim 2 wherein the blades are juxtaposed so that the blades on one bank extend transversely between the adjacent blades of an adjacent bank.

4. A screening apparatus according to claim 3 wherein said blades are configured and juxtaposed so that if the blades of one bank were directly opposite the blades of an adjacent bank the opposed blade would intermesh.

5. A screening apparatus according to claim 4 wherein said screen frame is in the form of a bottomless scoop or bucket adapted for coupling to an earthmoving vehicle whereby said vehicle can be controlled to manipulate

Replaced by Article 34

said scoop or bucket to scoop particulate material into said screen frame and/or elevate said screen frame above the ground while said blades are rotated.

6. A screening apparatus according to claim 5 further including one or more hydraulic motors for driving said banks to blades said motors supported on said screen frame and wherein hydraulic fluid for said motors is derived from said earthmoving vehicle.